The election is as follows:

A method for making a semiconductor light source wherein the bulb is arcuate, the bulb enclosure is transparent, the bulb material is glass, the exterior surface of the bulb has a finish applied by coating, the interior surface of the bulb is coated with a luminous powder coating on the interior surface of the bulb, the enclosure volume is occupied by ordinary air, a light converting coating is applied by evaporative means, the semiconductor device is an LED chip, the semiconductor has an insulating substrate, the substrate material is sapphire, the heat sink material includes aluminum, each semiconductor device has its own heat sink, the chips being mounted to the heat sink by a heat conductive adhesive (other epoxies), the TE material is utilize, the heat dissipating fan is utilized, the transparent filler material is not utilized, the ac/dc converter is utilized, and the contact layer is on a cladding layer.

AMENDMENT

Please cancel claims 1-20 without prejudice.

Please add new claims 21-36.

REMARKS

Claims readable on the elected species include 21-36.

Any additional fees should be charged to deposit account no. 50-0581.

Respectfully submitted this 18th day of February, 2003.

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21. A method for making a semiconductor light source intended to be used for emitting light to illuminate a space used by humans, the method comprising:

fabricating an enclosure, said enclosure being fabricated from a material substantially transparent to white light, and said enclosure having an interior volume,

fabricating at least one heat sink to be located within said enclosure, said heat sink having a plurality of panels on it which facilitate mounting of semiconductor devices thereon, said heat sink being adapted to draw heat away from semiconductor devices mounted on it,

selecting a plurality of semiconductor devices capable of emitting light, said semiconductor devices being selected from the group consisting of light emitting diodes, light emitting diode arrays, laser chips, LED modules, laser modules, and VCSEL chips,

A1 cont'd

mounting said semiconductor devices on said heat sink(s),

applying a conversion coating for converting monochromatic light emitted by said chips to white light.

22. A method as recited in claim 21 wherein said coating is applied to the interior of said enclosure.

23. A method as recited in claim 21 further comprising the step of installing a power module for powering the light source, said power module including a fitting for installation in a traditional light bulb socket and an AC/DC converter for converting AC power from traditional building wiring to DC power usable by a semiconductor devices.

24. A method as recited in claim 21 wherein said semiconductor devices are mounted to said heat sink by use of heat conductive adhesive located between said chip and said heat sink and serving to conduct heat from said chip to said heat sink.

25. A method as recited in claim 21 further comprising the step of placing a quantity of light reflective adhesive located between said semiconductor devices and said heat sink.

26. A method as recited in claim 2 wherein at least one of said semiconductor devices includes

a substrate on which epitaxial layers are grown,

a buffer layer located on said substrate, said buffer layer serving to mitigate differences in material properties between said substrate and other epitaxial layers,

a first cladding layer serving to confine electron movement within the chip, said first cladding layer being adjacent said buffer layer,

an active layer, said active layer emitting light when electrons jump to a valance state,

a second cladding layer, said second cladding layer positioned so that said active layer lies between cladding layers, and

a contact layer on which an electron may be mounted for powering said chip.

27. A method as recited in claim 21 further comprising installing a fan in said light source to facilitate air circulation and cooling.

28. A method as recited in claim 21 further comprising forming an air chamber in said heat sink.

29. A method as recited in claim 29 further comprising placing a quantity of TE cooler material on the interior of said air chamber.

30. Method for making a semiconductor light source comprising the steps of:

A' cont'd

obtaining an enclosure, said enclosure being fabricated from a material substantially transparent to white light,

obtaining a base to which said enclosure may be mounted,

obtaining a secondary heat sink suitable for being located within said enclosure, said secondary heat sink being capable of drawing heat from one or more semiconductors devices, said secondary heat sink having a plurality of panels on it suitable for mounting primary heat sinks thereon, said panels on said secondary heat sink being oriented to facilitate emission of light from the semiconductor light source in desired directions around the semiconductor light source,

obtaining a plurality of primary heat sinks,

obtaining a plurality of semiconductor devices,

mounting at least one semiconductor device on each of said primary heat sinks, and

mounting said primary heat sinks on said secondary heat sink panels.

31. A method as recited in claim 30 wherein at least one of said semiconductor chips capable of emitting light.

32. A method as recited in claim 31 wherein said chip is capable of emitting monochromatic light.

33. A method as recited in claim 32 further comprising the step of applying a light conversion coating to said enclosure, said coating being capable of converting monochromatic light to white light.

34. A method as recited in claim 30 wherein at least one of said semiconductor devices is an LED.

35. A method as recited in claim 30 wherein at least one of said heat sinks includes aluminum.

36. A method as recited in claim 30 wherein at least one of said semiconductor devices includes

a substrate on which epitaxial layers are grown,

a buffer layer located on said substrate, said buffer layer serving to mitigate differences in material properties between said substrate and other epitaxial layers,

a first cladding layer serving to confine electron movement within the chip, said first cladding layer being adjacent said buffer layer,

an active layer, said active layer emitting light when electrons jump to a valance state, and

a second cladding layer, said second cladding layer positioned so that said active layer lies between cladding layers.

A1 end